

# **Public Hearing to Consider Proposed Amendments to Transport Refrigeration Unit (TRU) Airborne Toxic Control Measure (ATCM)**



**Sacramento, California**

**November 18, 2010**

California Environmental Protection Agency  
 **Air Resources Board**

# Overview

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- **Background**
- **Proposed Amendments**
- **Emissions Impacts**
- **Recommendation**



# Background

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- **TRU ATCM adopted February 2004**
- **U.S. EPA approved waiver  
January 16, 2009**
- **Enforcement delayed until  
December 31, 2009**

# TRU Applications

- What is a TRU?
  - Refrigeration systems powered by integral diesel engines
  - Used to control the environment of temperature sensitive products that are transported in trucks, semi-trailers, railcars, and shipping containers





# TRU Gen Set Applications

- **What is a TRU Generator Set?**
  - Refrigeration systems on ocean-going shipping containers and semi-trailers are electrically driven
  - TRU gen sets are attached during land-leg of a trip
  - Electrically-driven refrigeration systems plug into TRU gen sets



# **Key Requirements of Current Regulation**

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- **Web-based registration**
  - All TRUs based in California
  - Voluntary for TRUs based outside California
- **Submit Operator Reports**
  - Affects all California terminals where TRUs are assigned
- **Meet in-use performance standards**
  - Affects all TRUs that operate in California
  - Phased compliance schedule

# Implementation Status

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- **Outreach training, compliance assistance**
- **Stakeholder issue meetings**
- **Regulatory advisories**
- **Compliance technology development and verification**
- **Conducted and participated in technology forums**
- **ARBER: Web-based TRU registration system**
- **Toll-free helpline**

# Proposed Amendments

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- **Today's proposed amendments**
  - Three time-critical issues
  - Need resolution by end of 2010
- **2011 amendments to address remaining issues including:**
  - Revisit 7-year operational life requirement
  - Other stakeholder proposals



# Proposed Amendment #1

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- **Model year 2003 and MY 2004 (<25 hp – truck)**
  - **Allow option of less stringent in-use standard now and more stringent standard later**
    - Low-Emission standard met in 2010/2011 by retrofitting with Level 2 control system
    - Ultra-Low-Emission standard met in 2017/2018
  - **Rationale:**
    - Limited availability of Level 3 control systems (ULETRU)
    - Level 2 control systems (LETRU) readily available

# Proposed Amendment #2

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- **Flexibility Engines**
  - **In-use requirements based on engine manufacturer year for pre-2011 engines**
    - Fair treatment of consumers
    - Prevents unexpected loss of operational life
  - **In-use requirements based on “effective model year” for 2011+ engines**
    - Prevents future lost emission reductions
    - Discourages future use of dirtier flexibility engines
    - Provides consumers with clear information on remaining operational life of engine

# Proposed Amendment #3

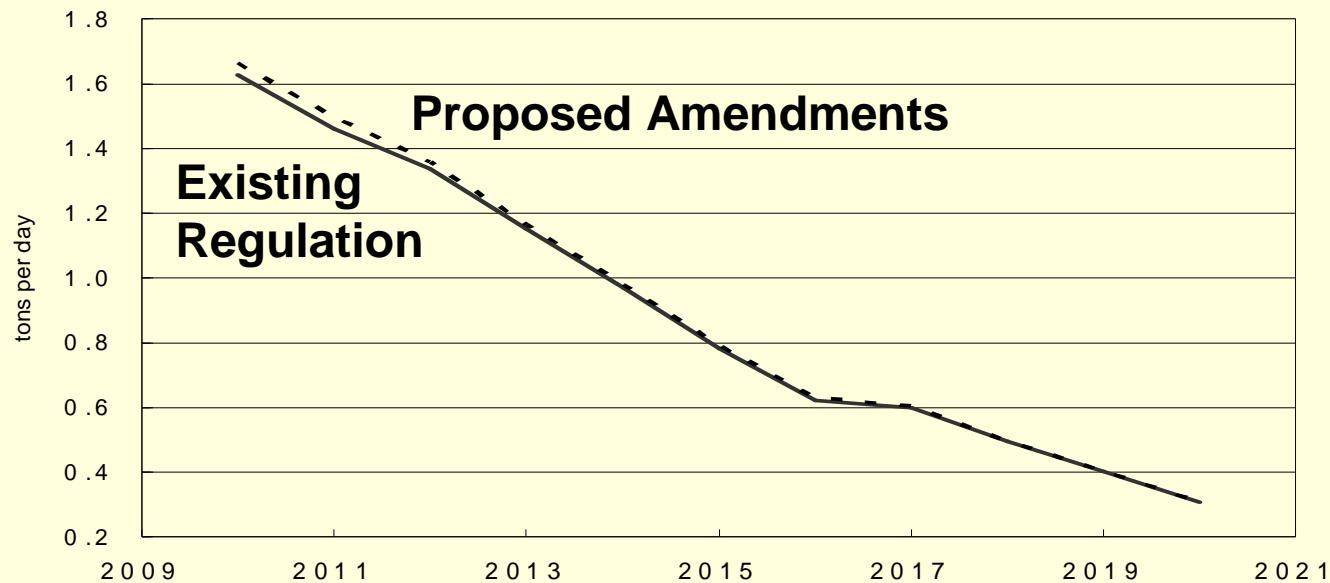
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- **Add TRU manufacturer reporting requirements:**
  - Flexibility engine data needed to adjust compliance dates
  - Equipment model and engine information
  - Streamline the registration process



# Minimal Impact on Anticipated Emission Reductions

- Temporarily defers very small emissions reductions until 2017/2018



# Economic Impacts

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- **Amendment #1: LETRU option**
  - Level 2 systems \$1,300 to \$2,300 less than Level 3 systems
  - Cost savings in 2010/2011 - \$2.1 million
  - Compliance cost in 2017/2018 - \$1.79 million
  - Net cost savings - \$310,000
- **Amendment #2: Flexibility engines**
  - No end-user compliance costs
- **Amendment #3: TRU manufacturer reporting**
  - Reporting costs - \$150,000

# Recommendation

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- **Adopt the proposed amendments**
- **Direct staff to:**
  - Issue implementation advisory
  - Continue outreach efforts
  - Continue work with TRU manufacturers on reporting mechanism
  - Return to Board in 2011 with proposed amendments to address remaining issues

